

**SCALE**

IT-Solutions for CAE



**NAFEMS**

# Integrating Workflows with Project-Based CAE Environments such as ANSYS Workbench into Simulation Data Management

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SCALE GmbH



- 1 Challenge | Workbench Project Versioning?
- 2 What is SCALE.sdm?
- 3 SCALE.sdm + AnsysWorkbench
- 4 Workflow Setup
- 5 Outcome & Anticipated ROIs

# Challenge | Workbench Project



kindly generated by Gemini



- 1 Challenge | Workbench Project Versioning?
- 2 **What is SCALE.sdm?**
- 3 SCALE.sdm + AnsysWorkbench
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# What is SCALE.sdm?



## Central hub

- Inputs, results and workflows



## Open and flexible

- seamless integration into existing it-infrastructure and tools



## Solver Agnostic

- Solver-independent - Flexible approach for any solver



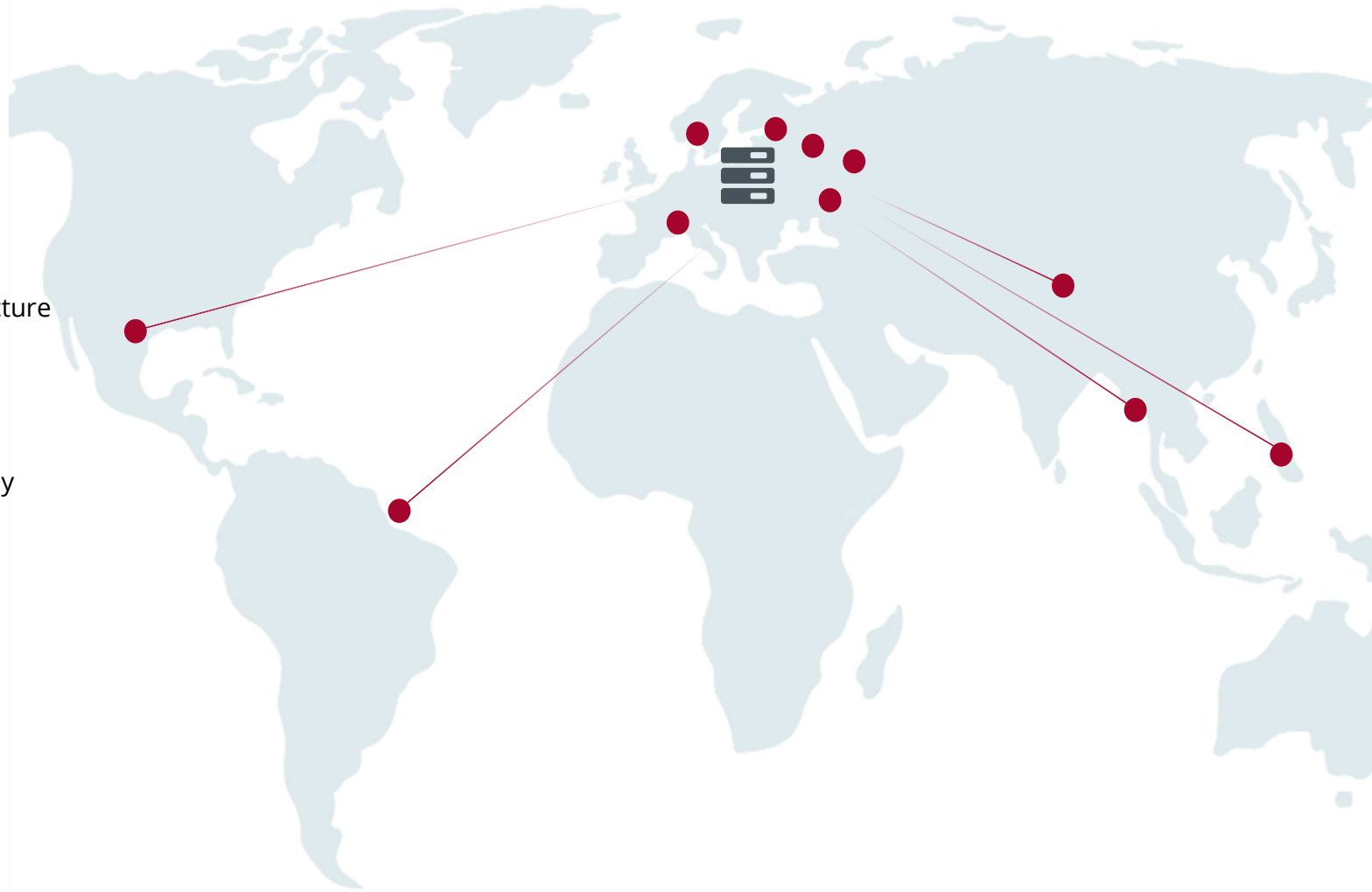
## Scalable

- Used with millions simulations per instance productively



## ML / AI ready

- AI-support for workflows





**Model**  
Input Data Management



**Result**  
Storage & Evaluation



**Project**  
Monitor Targets

The screenshot shows the SCALE.sdm software interface. On the left, there is a 'Browser' pane with a tree view of project components. Below it is a 'Komponenten' (Components) list for a 'Vehicle' model, including 'Exterior', 'Body in white', 'Engine', and 'Hatch'. On the right, a table lists 'Nutzer Metadaten' (User Metadata) for various components, with columns for 'Name', 'Kurzbeschreibung' (Short Description), 'Project', and 'ImpactLocation'.

The screenshot displays simulation results. A 'Model Viewer' window shows a 3D model of a car's engine compartment with a stress distribution overlay. Below the viewer, there are graphs for 'Acceleration-X Engine top' and 'Acceleration-X Engine bottom'. A 'Simulation Overview' table is visible at the top, listing simulation runs with columns for 'Run #', 'History Comment', 'Final Intensity [mm]', 'B-Pillar 1', and 'B-Pillar 2'.

The screenshot shows a 'Requirements' management interface. It features a tree view of 'Milestones' and a table of requirements. The table has columns for 'Group', 'Name', 'Description', 'Threshold', and 'Status'. The 'Status' column contains various colored indicators (red, green, yellow) and text like 'YES', 'NO', 'UNRATEABLE'. A specific requirement 'Gurtschloßöffnungskraft' is highlighted in red.

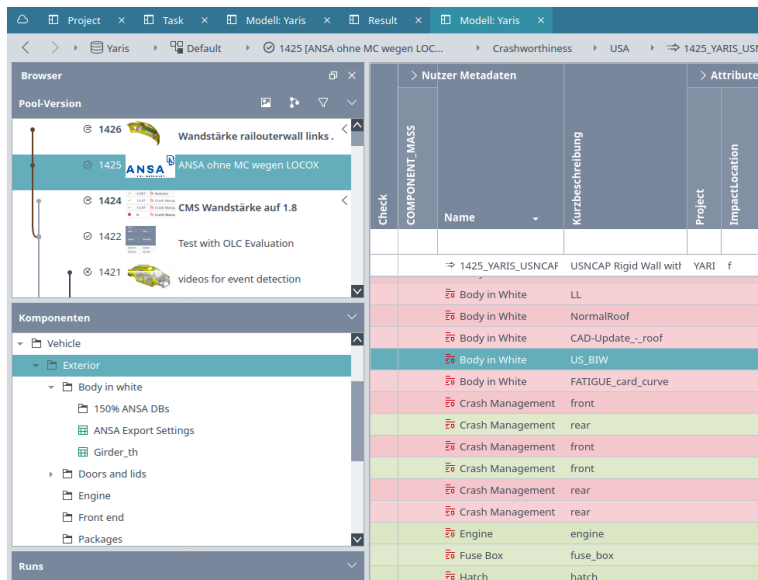
# SCALE.sdm | Key Features: Version Management & Team Collaboration



**Model**  
Input Data Management

**Result**  
Storage & Evaluation

**Project**  
Monitor Target



## • Collaborate in team

- Share your model data with the team.
- Versioning and keeping track of all changes to item and project level assets of Workbench project

## • Automate process

- Integrate pre/post scripts for streamlining workflow and reducing manual effort

## • Search and Auditability

- find objects by parameter or project metric.
- Integrated comments, immutable baseline and tagged milestones

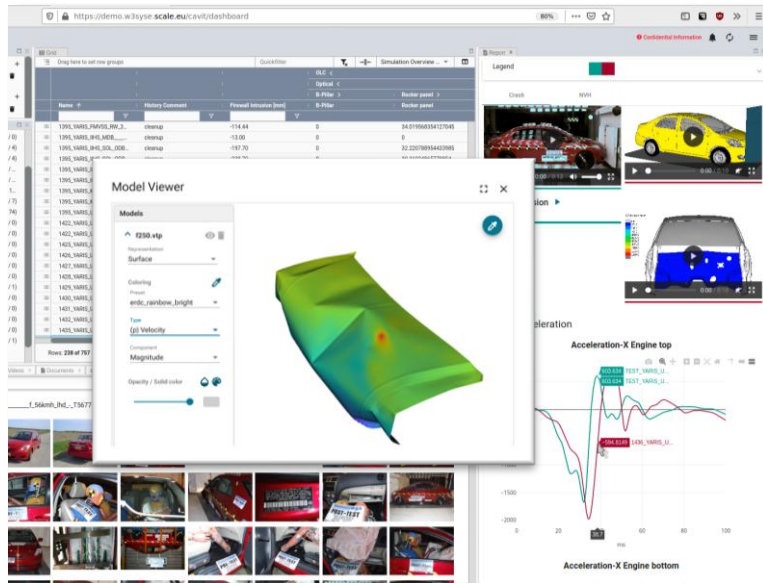
# SCALE.sdm | Key Features: Visualization & Reporting



Model  
Input Data Management

Result  
Storage & Evaluation

Project  
Monitor Targets



- **Data Platform** - *Manage all Post Data at a single place*
  - Manage, search, sort all your simulation and physical test data
  - Instantly view curves, videos, 3D data
- **Dynamic Web-Reports & Additional Reporting based on 3<sup>rd</sup> party tools**
  - Reporting of selected results, interactively explore charts and models
- **Data analysis and AI-Tools Integration**
  - Classical data analysis is integrated – AI based on tools and platforms



Model  
Input Data Management

Result  
Storage & Evaluation

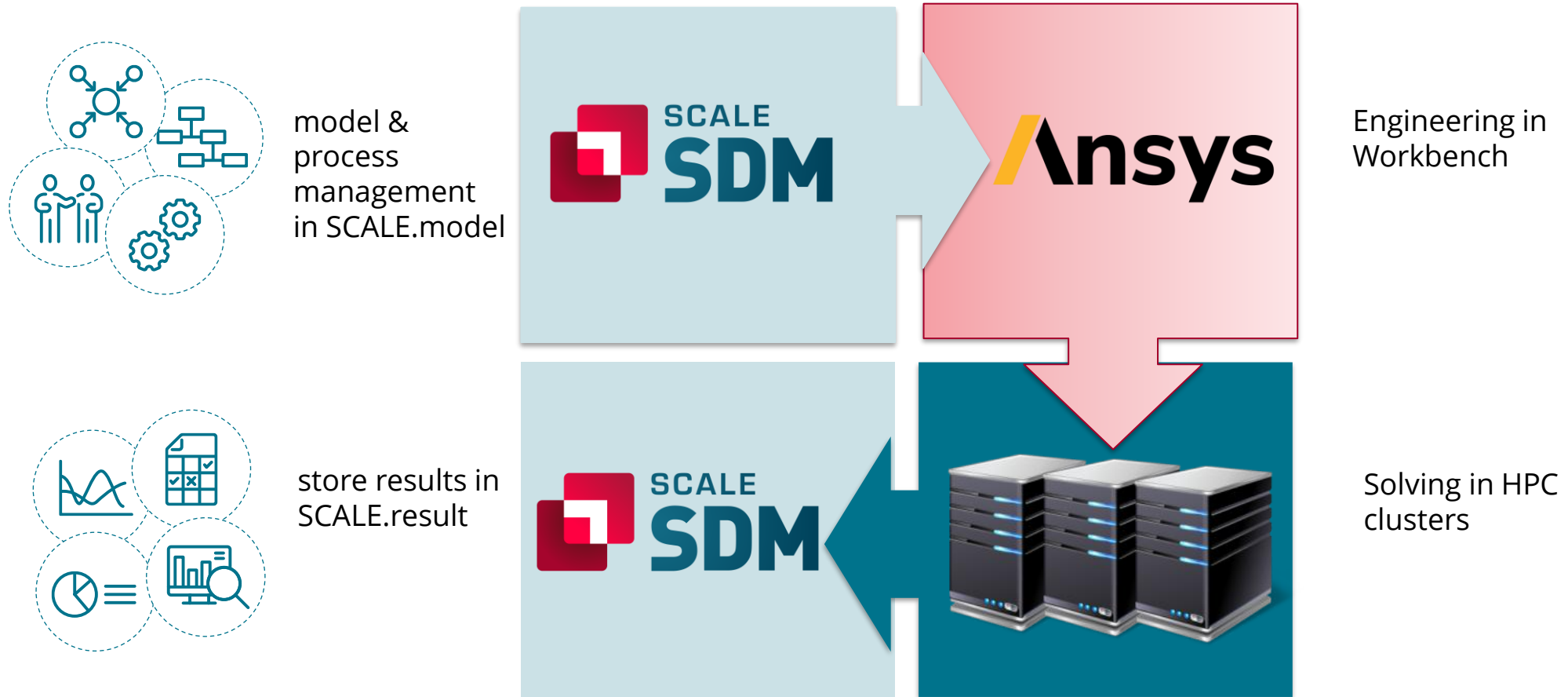
Project  
Monitor Status

Group	Name	Description	Threshold	Status Value
USA	(385)			
Korea	(38)			
Japan	(114)			
Indien	(80)			
ECE RL	(128)			
None	(76)			
ECE-R_94_2016(Final-2016-06)	(76)			
FrontaLECE-R_094_56km/h_0...	(18)			
FrontaLECE-R_094_56km/h_0...	(18)			
1.0.00 R.D.VEHICLE_Y_DEVIATIO...	Annex 3 "1.3.1. Alignment...		$-20.00 \leq x \leq 20.00$	+1 16 mm
Dummy POS1 geborgen ohne Sit...	5.2.5. After the impact, it...		$x \leq YES$ $x \leq NO$	YES
Dummy POS1 geborgen ohne W...	5.2.5. After the impact, it...		$x \leq YES$ $x \leq NO$	YES
Dummy POS3 geborgen ohne Sit...	5.2.5. After the impact, it...		$x \leq YES$ $x \leq NO$	YES
Dummy POS3 geborgen ohne W...	5.2.5. After the impact, it...		$x \leq YES$ $x \leq NO$	YES
Eine oder mehrere Türen) verrie...	5.2.4. After the impact, th...		$x \leq NO$ $x \leq YES$ $x = UNRATEABLE$	YES
Eine oder mehrere Türen) währe...	5.2.3. During the test no d...		$x \leq NO$ $x \leq NEI$	NO
Elektrolyt in Innenraum	5.2.B.2. Electrolyte spillag...		$x \leq NEI$ $x = JA$	NEI
Geschwindigkeit ECE-R_094 (Beh...	Annex 3 "4. Test speed" Ve...		$-20.00 \leq x \leq 20.00$ $25.00 \leq x \leq 37.00$	+1 14.9 km
Gurtschlossöffnungskraft	5.2.5.2. To release the du...		$60.00 \leq x \leq 60.00$ $60.00 \leq x \leq 60.00$	+1 61 N
Gurtschlossöffnungskraft	5.2.5.2. To release the du...		$60.00 \leq x \leq 60.00$	+1 61 N

- **Define Project Goals**
  - Setup all requirements with any details (Market, Regulation, Components, ...)
- **Validate any simulation/test against requirements**
  - Get instant highlighting for your key results
- **Monitor status**
  - Get an aggregated project status
  - Deep dive into referenced simulation if necessary

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# SCALE.sdm + Ansys Workbench: Integration Overview



**This integration pattern ensures a scalable and traceable simulation workflow**

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# Workflow with SCALE.sdm



## Import from CAD

Integration with PLM Systems



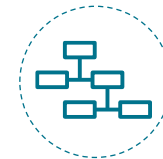
## Project Setup

Manage and Access All Your Data



## Ansys Integration

Engineering in Workbench



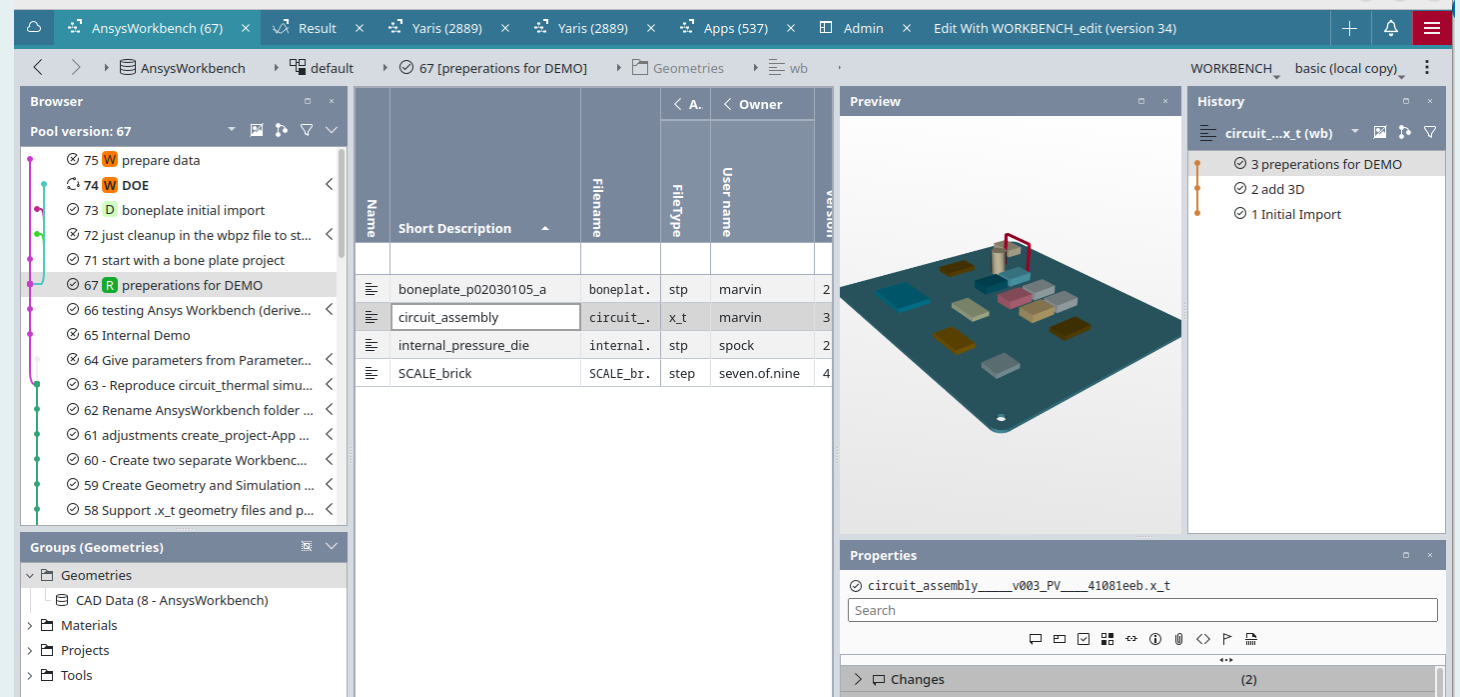
## Version Control

Manage changes

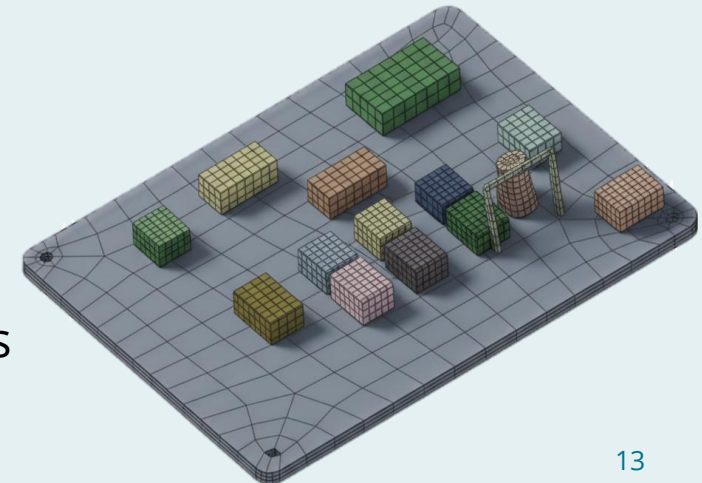


## Result evaluation

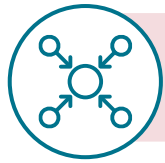
Result storage and evaluation



- Desktop application as IDE for engineers
- Discipline and solver independent
- Access and organize all input files
- Allows integration of local CAE tools
- Interfaces with CAD world



# Workflow with SCALE.sdm



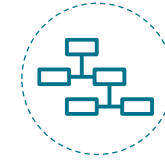
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



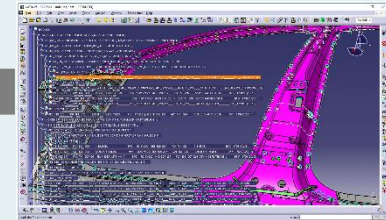
**Result evaluation**  
Result storage and evaluation

## CAD & PDM Systems

Teamcenter, Siemens NX, ...

Name	Short description	Material	File Type	MaterialID	Nummer	Wundstein
AUS13/6		K4H	SC3			
CAD #KE_810_553_PCA_TM_015	VERSTAERKUNG_DACHR...	VFF_170519QCSI				
CAD #KE_809_655_B_PCA_TM_002	ET_SCHARNIERAU_HRL...	NS_180119QCSI				
CAD #KE_806_207_PCA_TM_002	VERST_SCHARNIERAU...	NS_180119QCSI				
CAD #KE_809_745_PCA_TM_022	VERST_SAEULE_C_OBE...	VFF_170413QCSI				
CAD #KE_809_263_G01_TM_018	VERST_SAEULE_C_LIN...	VFF_170407QCSI				
CAD #KE_809_697_DMU_TM_006	SCHOTTI_SA_C_LIN...	SAK_R08_CH01093037				
CAD #KE_810_391_A_G01_TM_001	VERL_SAEULE_A_AUSS...	VFF_170413QCSI				
CAD #KE_810_889_DMU_TM_004	SCHOTTI_SAEUL_D...	SAK_R05_CH01093043				
CAD #KE_809_647_DMU_TM_008	SCHOTTI_SAEUL_C...	SAK_R08_CH01093036				
CAD #KE_809_697_A_DMU_TM_005	SCHOTTI_SA_C_LIN...	SAK_R06_CH01093038				
CAD #KE_809_307_G01_TM_020	VERST_SAEULE_D...	VFF_170509QCSI				
CAD #KE_806_095_PCA_TM_014	SCHOTTITEL_SAEUL...	BFG_170120QCSI				
CAD #KE_809_329_PCA_TM_014	SAEULE_D_INNEN_LI...	VFF_170519QCSI				
CAD #KE_810_555_PCA_TM_009	VERST_DACHRELING...	VFF_170528QCSI				
CAD #KE_810_283_G01_TM_023	SAEULE_A_AUSS_OBE...	PVS_170922QCSI				
CAD #KE_809_111_PCA_TM_020	VERSTEUERUNGSTE...	BFG_170120QCSI				
CAD #KE_805_523_PCA_TM_014	SCHOTTITEL_VER...	BFG_170120QCSI				
CAD #KE_809_571_DMU_TM_003	SCHOTTI_SAEUL_U...	SAK_R05_CH01093046				
CAD #KE_809_285_G01_TM_009	VERST_SAEULE_A_M...	BFG_170120QCSI				
CAD #KE_809_625_A_G01_TM_007	SCHARNIERVERST...	BFG_170120QCSI				
CAD #KE_810_215_PCA_TM_014	SCHARNIERVERSTAE...	PVS_170714QCSI				
CAD #KE_809_297_PCA_TM_020	SCHARNIERVERST_...	PVS_170630QCSI				
CAD #KE_810_313_PCA_TM_017	STEGTEL_SAEULE_C...	VFF_170526QCSI				
CAD #KE_809_695_PCA_TM_013	VERST_SCHWELER_2...	VFF_170526QCSI				
CAD #KE_809_393_PCA_TM_015	VERST_SCHWELER_3...	VFF_170526QCSI				
CAD #KE_809_067_PCA_TM_009	VERST_SCHWELER_VO...	VFF_170303QCSI				
CAD #KE_809_755_G01_TM_016	SCHWELER_AUSSEN...	VFF_170620QCSI				
CAD #KE_810_269_G01_TM_016	STEGT_SCHWELER_VO...	PVS_170620QCSI				
CAD #KE_809_739_G01_TM_021	VERSTAERKUNG_INN...	VFF_170620QCSI				
CAD #KE_809_801_DMU_TM_005	SCHOTTI_SCHWEL_M...	SAK_R05_CH01093040				

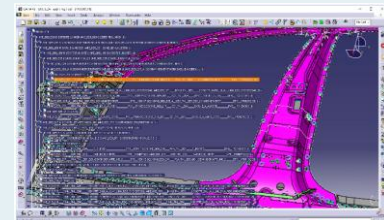
CAD System  
or PDM client



PDM System



CAD System  
or PDM client

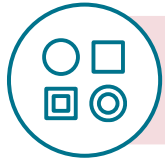


Working with  
CAD Data

# Workflow with SCALE.sdm



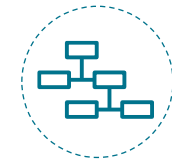
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

**Iterations in Project**

Name	Short Description	filename	fileType	User name	version
boneplate_p02030105_a		boneplat.	stp	marvin	2
circuit_assembly		circuit_.	x_t	marvin	3
internal_pressure_die		internal.	stp	spock	2
SCALE_brick		SCALE_br.	step	seven.of.nine	4

**3D Preview for input**

**Object history**

- 3 preparations for DEMO
- 2 add 3D
- 1 Initial Import

**Project files**

**Additional metadata**

Category	Count
Changes	(2)
Snippets	(0)
Checks	(1)
Attributes	(1)
Dependencies	(6)
Basic Information	(15)

**Project Data Structure**

# Workflow with SCALE.sdm

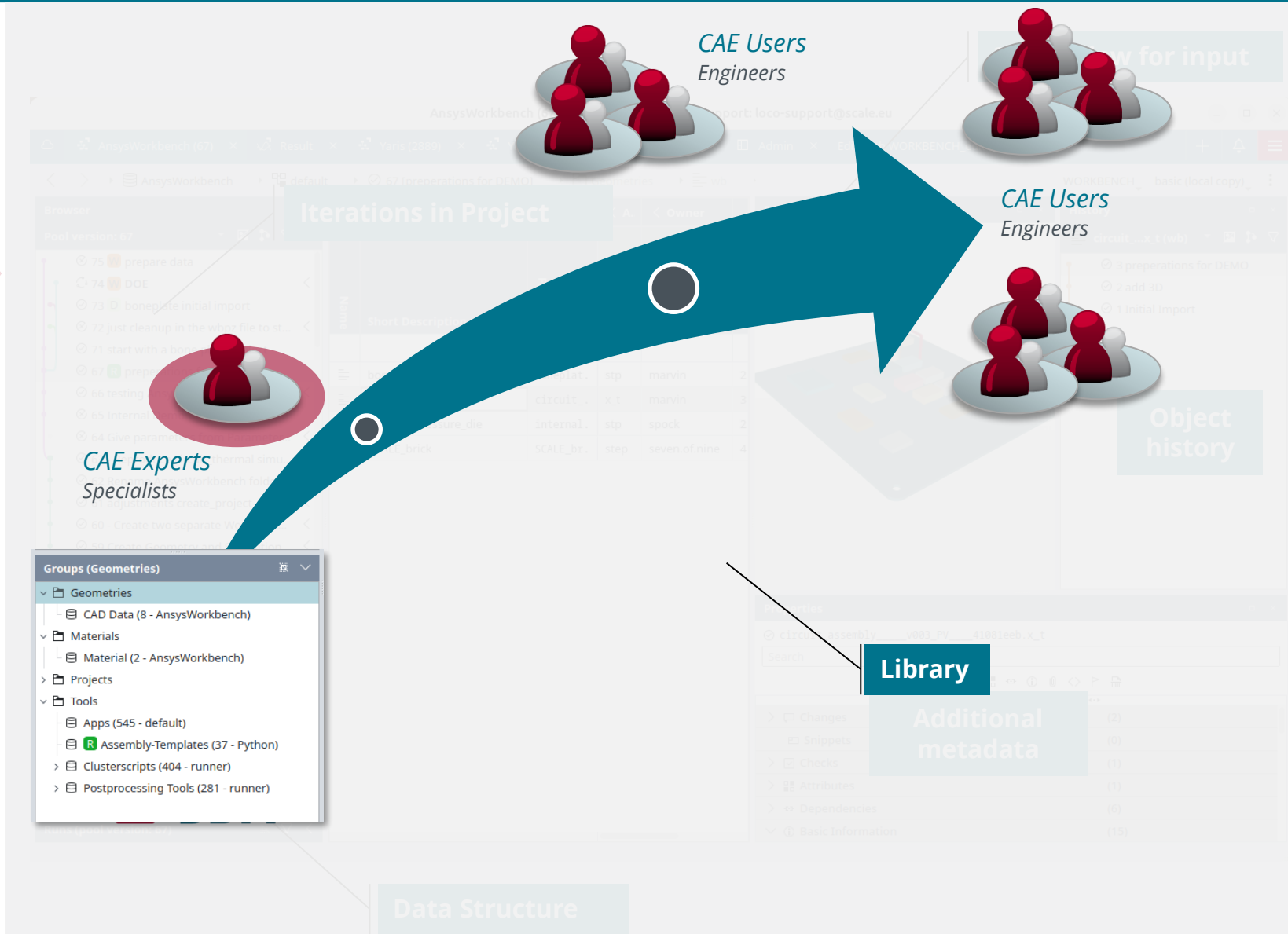
 **Import from CAD**  
Integration with PLM Systems

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Manage and Access All Your Data

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# Workflow with SCALE.sdm



## Import from CAD

Seamless Integration with PLM Systems



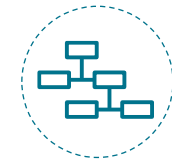
## Project Setup

Manage and Access All Your Data



## Ansys Integration

Engineering in Workbench



## Version Control

Manage changes



## Result evaluation

Result storage and evaluation

The screenshot displays the Ansys Workbench interface with several key components highlighted:

- Open geometry directly from SCALE.sdm:** A callout points to the 'Edit with...' menu option for a component, which includes 'WORKBENCH\_create (version 8)'.
- Application script:** A callout points to the 'Python' icon in the top right corner of the interface.
- Project Setup:** The 'Project Schematic' window shows a project structure with a 'Geometry' component selected.
- Properties of Project Schematic:** A table showing properties for the project schematic.
- Files:** A table listing files in the project.

Properties of Project Schematic	
A	B
1	Property Value
2	Notes
3	Notes
4	Solution Process
5	Update Option Foreground

Files					
A	B	C	D	E	F
1	Name	Cell ID	Size	Type	Date Modified
2	circuit_assembly_v003_PV_41081eeb.x_t	A2	166 KB	Geometry File	9/26/2025 3:38:27 PM

# Workflow with SCALE.sdm



## Import from CAD

Integration with PLM Systems



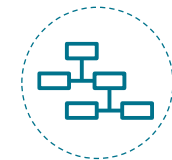
## Project Setup

Manage and Access All Your Data



## Ansys Integration

Engineering in Workbench



## Version Control

Manage changes



## Result evaluation

Result storage and evaluation

**Open geometry directly from SCALE.sdm**

**Automatic loading of task specific extensions**

**Geometry file automatically imported as Geometry system**

Name	Short Description	FileType	User name	Version
workbench_load_extensions_wbpz		py	seven.of.nine	12
workbench_export_wbpz		py	seven.of.nine	2
workbench_export_routine		py	wesley.crush...	1
workbench_export_geometry		py	marvin	4
WORKBENCH_edit		py	marvin	34
WORKBENCH_create		py	marvin	8
workbench_button_archive_project_xml		xml	spock	2
workbench_button_archive_project_function		py	spock	11
workbench_apdl_commands		txt	seven.of.nine	1

Property	Value
Notes	
Solution Process	
Update Option	Foreground

Size	Type	Date Modified	Location
166 KB	Geometry File	9/26/2025 3:38:27 PM	/tmp/tmpxewt_udv

# Workflow with SCALE.sdm



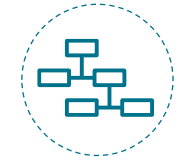
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

Open geometry directly from SCALE.sdm

	A	B	C	D	E	F
1	Name	Cell ID	Size	Type	Date Modified	Location
2	circuit_assembly_v003_PV_41081eeb.x_t	A2,B3,C3	166 KB	Geometry File	9/26/2025 3:38:27 PM	/tmp/tmpxewt_udv

# Workflow with SCALE.sdm



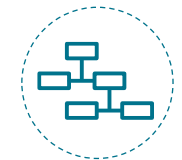
**Import from CAD**  
Integration with PLM Systems



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**Ansys Integration**  
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**Version Control**  
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**Result evaluation**  
Result storage and evaluation

Python Code to push results to sdm after solving (local / HPC)

# Workflow with SCALE.sdm



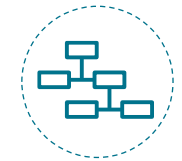
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
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**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

The screenshot displays the Ansys Workbench interface with several key elements highlighted:

- Open geometry directly from SCALE.sdm:** A callout box points to the 'Import' menu option in the 'File' menu.
- Extension to save project as wbpz:** A callout box points to the 'Save Project As' option in the 'File' menu.
- Project Schematic:** Shows a hierarchical view of the project components: A (Geometry), B (Steady-State Thermal), and C (Transient Thermal). Each component has its own sub-tree of settings like Engineering Data, Model, Setup, Solution, and Results.
- Files Panel:** A table listing project files.

	A	B	C	D	E	F
	Name	Cell ID	Size	Type	Date Modified	Location
1	circuit_assembly_v003_PV_41081eeb.x_t	A2,B3,C3	166 KB	Geometry File	9/26/2025 3:38:27 PM	/tmp/tmpxewt_udv

# Workflow with SCALE.sdm



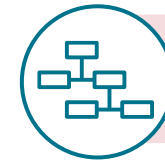
**Import from CAD**  
Integration with PLM Systems



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**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

Open geometry directly from SCALE.sdm

Name	Version	Component Type	Date Modified	History Comment
▼ AnsysWorkbench	New from 67		5:43 PM	Please click here to enter a comment that describes your chan...
> Geometries	8		5:43 PM	3D preview
> Materials	2		5:43 PM	- user button for archiving
▼ Projects	New from 6		5:43 PM	Please click here to enter a comment that describes your chan...
▼ SCALE examples	New from 6		5:43 PM	Please click here to enter a comment that describes your chan...
circuit_thermal_v064_PV_3ee42e9c.wbpz	New from 64	Workbench archive file	5:43 PM	Please click here to enter a comment that describes your chan...
> Tools	34		5:43 PM	preparation for DEMO

Editing 1 Pool entry in WORKBENCH\_edit (version 34). The **bold** groups and Pool entries will be affected by the modification. Please update their history comments. **No Pool entry has been modified.**

Cancel Apply

# Workflow with SCALE.sdm



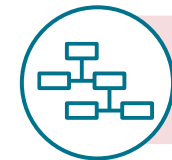
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



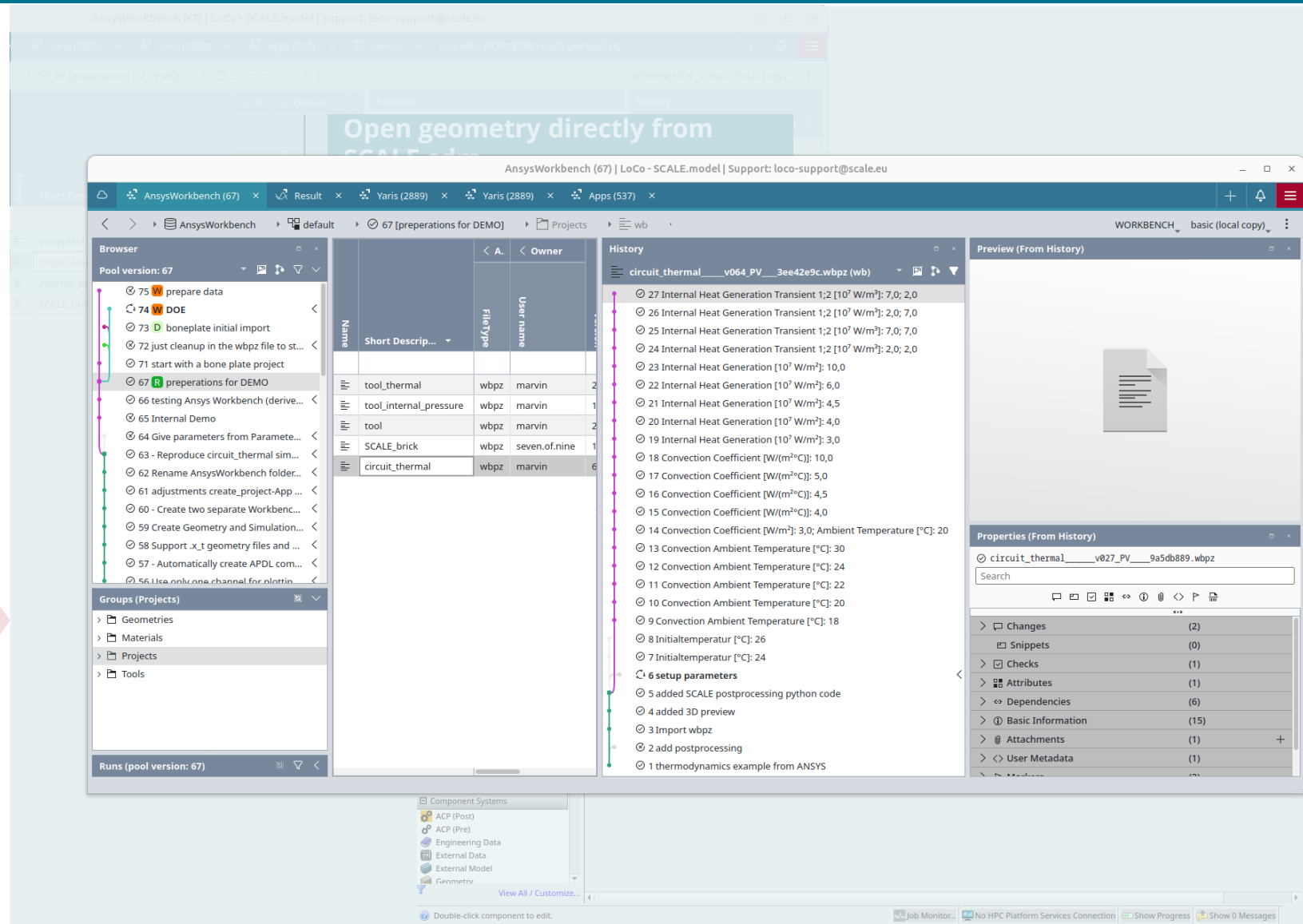
**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation



# Workflow with SCALE.sdm



## Import from CAD

Integration with PLM Systems



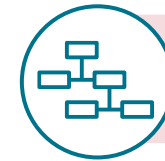
## Project Setup

Manage and Access All Your Data



## Ansys Integration

Engineering in Workbench



## Version Control

Manage changes



## Result evaluation

Result storage and evaluation

AnsysWorkbench (67) | LoCo - SCALE.model | Support: loco-support@scale.eu

Browser

Pool version: 67

- 75 W prepare data
- 74 W DOE
- 73 D boneplate initial import
- 72 just cleanup in the wbpz file to st...
- 71 start with a bone plate project
- 67 R preparations for DEMO
- 66 testing Ansys Workbench (derive...
- 65 Internal Demo
- 64 Give parameters from Paramete...
- 63 - Reproduce circuit\_thermal sim...
- 62 Rename AnsysWorkbench folder...
- 61 adjustments create\_project-App ...
- 60 - Create two separate Workbenc...
- 59 Create Geometry and Simulation...
- 58 Support .x\_t geometry files and ...
- 57 - Automatically create APDL com...
- 56 Use only one channel for plottin...

Name	Short Descrip...	FileType	User name
tool_thermal		wbpz	marvin
tool_internal_pressure		wbpz	marvin
tool		wbpz	marvin
SCALE_brick		wbpz	seven.of.nine
circuit_thermal		wbpz	marvin

History

- 27 Internal Heat Generation Transient 1;2 [10<sup>7</sup> W/m<sup>3</sup>]: 7,0; 2,0
- 26 Internal Heat Generation Transient 1;2 [10<sup>7</sup> W/m<sup>3</sup>]: 2,0; 7,0
- 25 Internal Heat Generation Transient 1;2 [10<sup>7</sup> W/m<sup>3</sup>]: 7,0; 7,0
- 24 Internal Heat Generation Transient 1;2 [10<sup>7</sup> W/m<sup>3</sup>]: 2,0; 2,0
- 23 Internal Heat Generation [10<sup>7</sup> W/m<sup>3</sup>]: 10,0
- 22 Internal Heat Generation [10<sup>7</sup> W/m<sup>3</sup>]: 6,0
- 21 Internal Heat Generation [10<sup>7</sup> W/m<sup>3</sup>]: 4,5
- 20 Internal Heat Generation [10<sup>7</sup> W/m<sup>3</sup>]: 4,0
- 19 Internal Heat Generation [10<sup>7</sup> W/m<sup>3</sup>]: 3,0
- 18 Convection Coefficient [W/(m<sup>2</sup>°C)]: 10,0
- 17 Convection Coefficient [W/(m<sup>2</sup>°C)]: 5,0
- 16 Convection Coefficient [W/(m<sup>2</sup>°C)]: 4,5
- 15 Convection Coefficient [W/(m<sup>2</sup>°C)]: 4,0
- 14 Convection Coefficient [W/m<sup>2</sup>]: 3,0; Ambient Temperature [°C]: 20
- 13 Convection Ambient Temperature [°C]: 30
- 12 Convection Ambient Temperature [°C]: 24
- 11 Convection Ambient Temperature [°C]: 22
- 10 Convection Ambient Temperature [°C]: 20
- 9 Convection Ambient Temperature [°C]: 18
- 8 Initialtemperatur [°C]: 26
- 7 Initialtemperatur [°C]: 24
- 6 setup parameters
- 5 added SCALE postprocessing python code
- 4 added 3D preview
- 3 Import wbpz
- 2 add postprocessing
- 1 thermodynamics example from ANSYS

Groups (Projects)

- Geometries
- Materials
- Projects
- Tools

Runs (pool version: 67)

Rail graph for overview and fast navigation between versions

# Workflow with SCALE.sdm



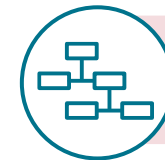
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

The screenshot displays the Ansys Workbench interface with a project history tree and a properties panel. The tree shows a sequence of steps: 33 (POST-PROCESSING), 34 (Convection Ambient Temperature [C]: 20), 53 (POST-PROCESSING), 54 (Convection Ambient Temperature [C]: 18), 55 (Convection Ambient Temperature [C]: 18), 56 (DEBUGGING), 57 (Convection Ambient Temperature [C]: 18), and 58 (update namescheme). A preview window on the right shows a 3D model of a circuit board. The properties panel on the right shows the file name 'circuit\_thermal\_v064\_PV\_3ee42e9c.wbpz' and a list of changes, including 'preparation for DEMO'.

# Workflow with SCALE.sdm



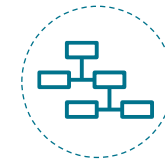
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

The screenshot displays the SCALE.sdm software interface. The main window shows a table of simulation results for a project named 'Board\_w\_chips'. The table includes columns for 'Run Name', 'Date', 'History Comment', 'Temp. Max Chip [degC]', and 'Temp. Max Switch [degC]'. One row is highlighted in red, showing 'circuit\_thermal\_v046' with a date of '2025-08-19, 1...' and a history comment of 'Internal Heat Generation [E7 W/m3]: 6,0'. Below the table, there is a section for 'Attributes' with a list of simulation parameters and their values, such as 'Convection Coefficient' (5 [W/(m²\*degC)]) and 'Internal Heat Generation Coefficient' (60 [MW/(m²\*m)]).

On the right side of the interface, a 'Reports' panel is visible, showing a 'Report Designer' window. This panel contains four line graphs representing temperature over time (0 to 200 seconds):

- Temperature max:** Shows a peak temperature of approximately 950°C around 40 seconds.
- Temperature min:** Shows a steady increase in temperature from 160°C to approximately 290°C over 200 seconds.
- Temperature Capacitor:** Shows a temperature increase from 237°C to approximately 300°C over 200 seconds.
- Temperature FPGA:** Shows a temperature increase from 200°C to approximately 320°C over 200 seconds.

Reports

Test Attachments: attributes, photos, videos, documents

# Workflow with SCALE.sdm



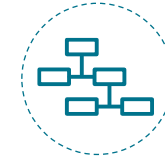
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



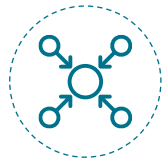
**Result evaluation**  
Result storage and evaluation

The screenshot displays the SCALE.sdm software interface. The main window shows a table of simulation results for a project named 'Board\_w\_chips'. The table has columns for 'Star', 'Run Name', 'Date', 'History Comment', 'Temp. Max Chip [degC]', and 'Temp. Max Switch [degC]'. Below the table, a 'Filter' section shows simulation results for a specific run, including parameters like 'Convection Coefficient', 'Convection Temperature', and 'Internal Heat Generation Coefficient'.

On the right side of the interface, there is a 'Report' section with a 'Report Designer' dropdown and an 'Automatic Selection' toggle. Below this, there are four line graphs showing temperature over time (0 to 200 seconds) for different components: 'Temperature max', 'Temperature min', 'Temperature Capacitor', and 'Temperature FPGA'. Each graph plots Temperature [C] on the y-axis against Time [s] on the x-axis.

**Interactive Test comparison**

# Workflow with SCALE.sdm



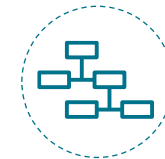
**Import from CAD**  
Integration with PLM Systems



**Project Setup**  
Manage and Access All Your Data



**Ansys Integration**  
Engineering in Workbench



**Version Control**  
Manage changes



**Result evaluation**  
Result storage and evaluation

The screenshot displays the SCALE.sdm software interface. At the top, the title bar reads "CAVIT - SCALE.result | Support: loco-support@scale.eu". The main window is divided into several sections:

- Projects and collections:** A sidebar on the left with a "Projects" section containing "Examples" and a "Collections" section.
- Table:** A central table with columns: "Star", "Run Name", "Date", "History Comment", and "Temp. Max Chip [degC]". It lists several simulation runs, with the most recent one highlighted in red.
- Attributes:** A section below the table showing simulation parameters for "circuit\_thermal\_\_\_\_v051\_PV053\_948be50d".
- Report Designer:** A panel on the right for generating reports, with a "Presentation mode" toggle and a "Template" dropdown set to "Workbench demo".
- Thermal Analysis Results:** Four heat maps are shown, labeled "Front" and "Back", comparing two different simulation runs.

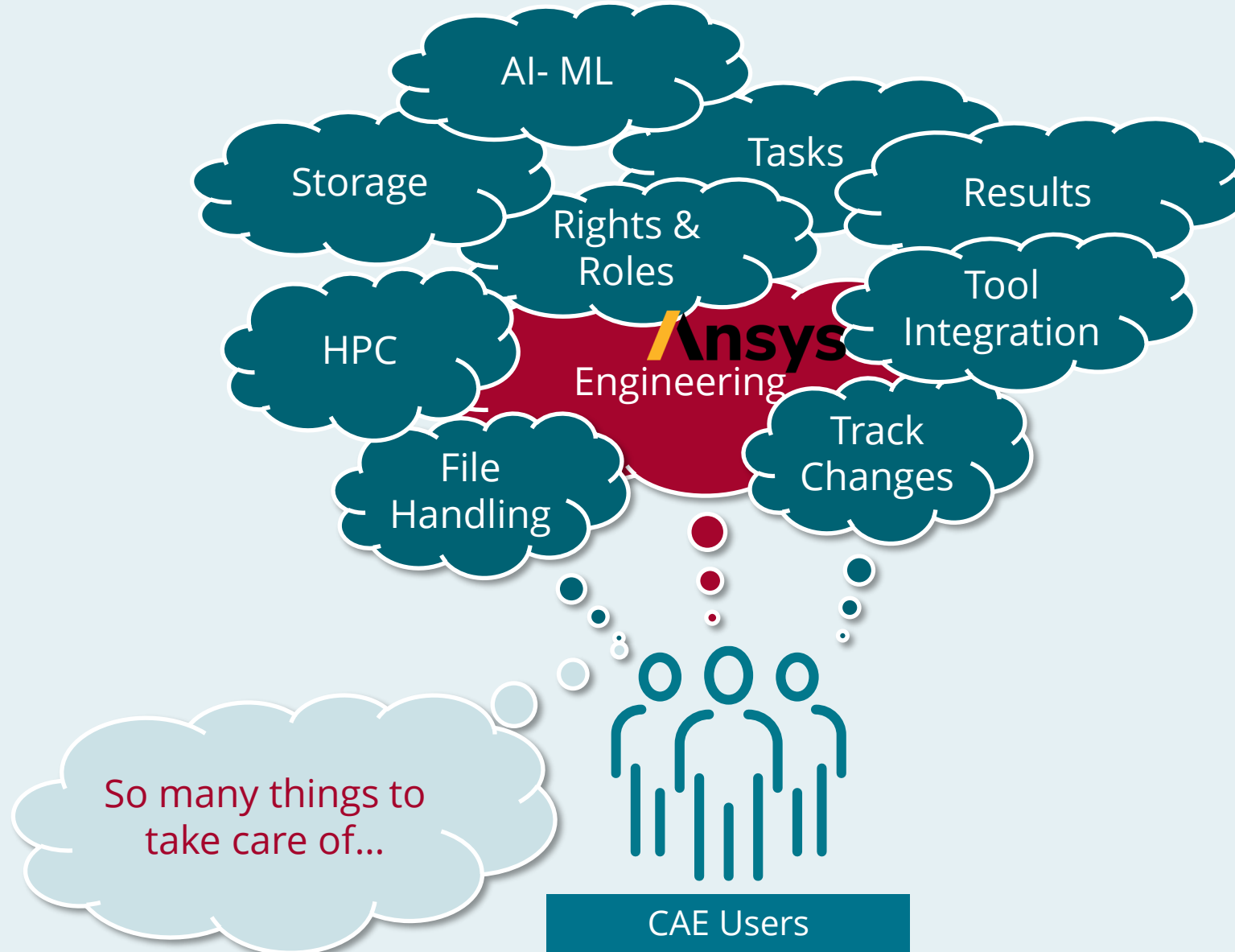
Star	Run Name	Date	History Comment	Temp. Max Chip [degC]
☆	circuit_thermal____v064_PV____2025-08-29...	2025-08-29, 1:51 PM	preparation for DEMO	267.61
☆	circuit_thermal____v064_PV____2025-08-28...	2025-08-28, 3:38 PM	preparation for DEMO	267.61
☆	circuit_thermal____v046_PV048_2025-08-19...	2025-08-19, 11:01 AM	Internal Heat Generation [E7 W/m3]: 6,0	317.13
☆	circuit_thermal____v052_PV054_2025-08-14...	2025-08-14, 11:40 AM	Internal Heat Generation Transient 1,2 [E7 W/...	267.61
☆	circuit_thermal____v051_PV053_2025-08-14...	2025-08-14, 11:38 AM	Internal Heat Generation Transient 1,2 [E7 W/...	267.61
☆	circuit_thermal____v050_PV052_2025-08-14...	2025-08-14, 11:35 AM	Internal Heat Generation Transient 1,2 [E7 W/...	267.61
☆	circuit_thermal____v049_PV051_2025-08-14...	2025-08-14, 11:32 AM	Internal Heat Generation Transient 1,2 [E7 W/...	267.61
☆	circuit_thermal____v048_PV050_2025-08-14...	2025-08-14, 11:30 AM	Internal Heat Generation Transient 1,2 [E7 W/...	267.61
☆	circuit_thermal____v047_PV049_2025-08-14...	2025-08-14, 11:28 AM	Internal Heat Generation [E7 W/m3]: 10,0	515.21
☆	circuit_thermal____v046_PV048_2025-08-14...	2025-08-14, 11:22 AM	Internal Heat Generation [E7 W/m3]: 6,0	317.13

Name	Value
Convection Coefficient	5 [W/(m²*degC)]
Convection Temperature	20 [degC]
Internal Heat Generation Coefficient	50 [MW/(m³*m)]
Internal Heat Generation Coefficient Transient 1	700 [MW/(m³*m)]
Internal Heat Generation Coefficient Transient 2	200 [MW/(m³*m)]
Temperature Steady State Max	267.61 [degC]

**Interactive Test comparison**

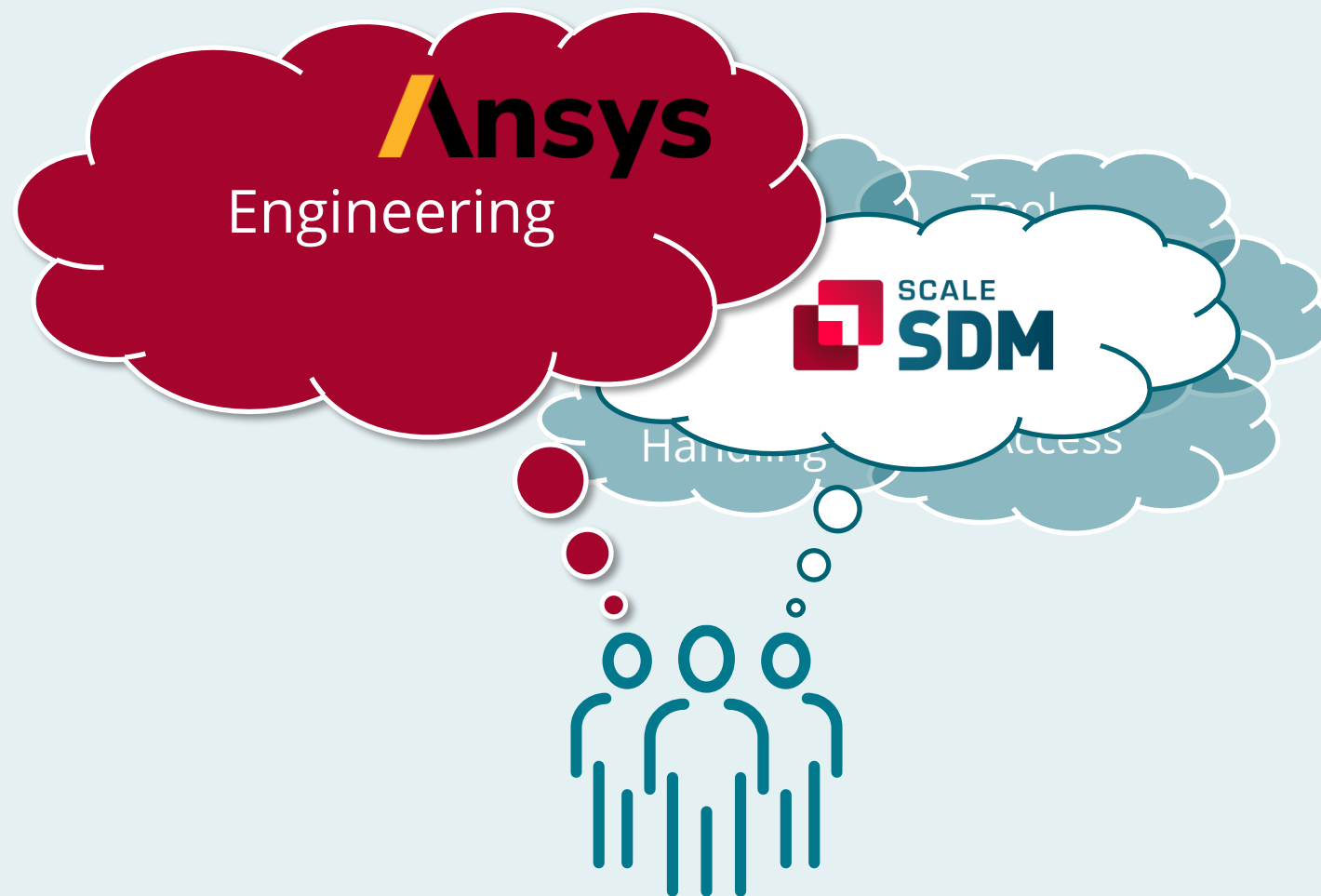
- 1 Challenge | Workbench Project Versioning?
- 2 What is SCALE.sdm?
- 3 SCALE.sdm + AnsysWorkbench
- 4 Workflow Setup
- 5 **Outcome & Anticipated ROIs**

# Outcomes & Anticipated ROIs



## Successful integration with Ansys Workbench

- **Centralized Truth**
  - Significantly reduce time spent finding the latest data
- **Reduced Reruns**
  - Fewer reruns due to missing context or overwritten files
- **Faster Onboarding**
  - Accelerate new engineer onboarding with reusable templates and standard workflows
- **Better Decisions**
  - Drive superior program decisions through reliable comparisons and comprehensive audit trails



# SO LONG, AND THANKS

FOR ALL THE FISH



<https://www.linkedin.com/company/scale-gmbh/>

**SCALE**

IT-Solutions for CAE

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## Scalable

Scale your business



## Cloud-native

Runs in cloud – available everywhere



## Easy to Customize

Customize to your needs with addons



## Collaboration

Fast and easy access to process data



Cloud ready

Version Control

Project management

Data Handling

Evaluation

Collaboration

Data compression

Security

Customization

Reports

Usability